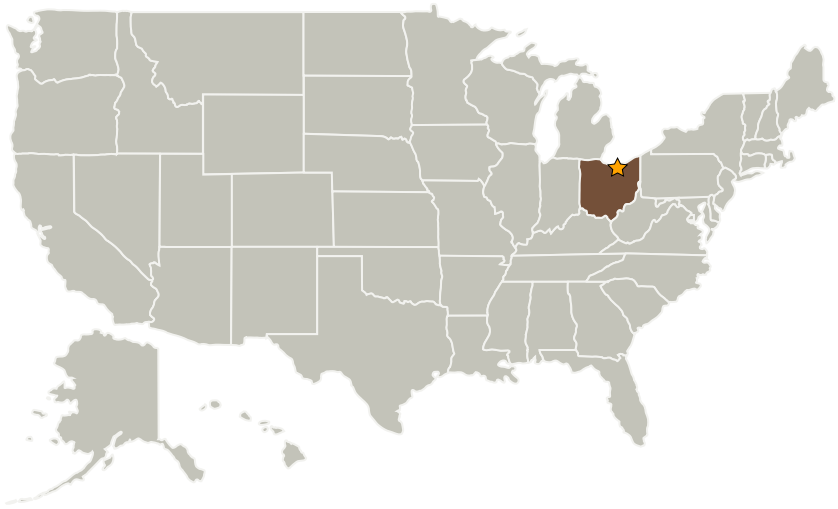
Low Cost P/M Aluminum Syntactic Foam for Blade Containment in Turbine Engines, Phase I

Completed Technology Project (2007 - 2007)

Project Introduction

The proposed Phase I SBIR proposes a low density (0.75-1.2g/cc)syntactic aluminum foam energy absorber co-manufactured inside a composite fan case for turbine engines. Metal syntactic foams provide more energy absorption than any type other metal or non metallic foam on a volumetric basis (80-150J/cm^3). This will provide a lower weight alternative to hard wall fan casings and a smaller wall alternative to soft walled fan casings. The phase I program will test Syntactic aluminum foam and integrated carbon fiber aluminum syntactic foam panels under high strain rate conditions and under a blade failure ballistic test.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
Powdermet, Inc.	Supporting Organization	Industry	Euclid, Ohio

Primary U.S. Work Locations
Ohio

Low Cost P/M Aluminum Syntactic Foam for Blade Containment in Turbine Engines, Phase I

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Low Cost P/M Aluminum Syntactic Foam for Blade Containment in Turbine Engines, Phase I

Completed Technology Project (2007 - 2007)

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.3 Aero Propulsion
    - TX01.3.1 Integrated Systems and Ancillary Technologies